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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,954	07/25/2003	James Darryl Browning	BAT 0021 VA /40078.231/B-	2259
7590	07/15/2005		EXAMINER	
Killworth, Gottman, Hagan & Schaeff, L.L.P. Suite 500 One Dayton Centre Dayton, OH 45402-2023			FEELY, MICHAEL J	
			ART UNIT	PAPER NUMBER
			1712	

DATE MAILED: 07/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding:

## Office Action Summary

Application No.

10/627,954

Applicant(s)

BROWNING ET AL.

Examiner

Michael J. Feely

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-68 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-68 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1003, 1203, 0305</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuda et al. (US Pat. No. 6,444,272).

Regarding claims 1-10, 14-22, 63, 65, and 66, Matsuda et al. disclose: *(1)* a method of making a low VOC epoxy coating (Abstract), comprising: combining and mixing an epoxy resin, a blocked amine, and a first solvent to form a single component epoxy coating precursor (Abstract);

*(3)* further comprising adding a reactive diluent to the single component epoxy coating precursor (column 3, lines 17-54); *(4)* wherein the reactive diluent is selected from modified glycidyl ethers, acrylates, methacrylates, urethane acrylates and combinations thereof (column 3, lines 17-54); *(5)* wherein the reactive diluent comprises a modified glycidyl ether (column 3, lines 17-54);

*(6)* further comprising adding a water scavenger to the single component epoxy coating precursor (Abstract; column 5, lines 1-37); *(7)* wherein the water scavenger is selected from molecular sieves, monocyclic bi-functional oxazolidones and combinations thereof (Abstract; column 5, lines 1-37);

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(8) wherein the first solvent is selected *see claim for list* (column 6, lines 12-22; column 1, lines 37-51);

(9) wherein the epoxy resin is selected from aliphatic epoxy resins, cycloaliphatic epoxy resins, aromatic epoxy resins and combinations thereof (column 2, lines 21 through column 3, line 16);

(10) wherein the epoxy resin comprises a di-functional bisphenol-A/epichlorohydrin derived epoxy resin (column 2, lines 46-64);

(14) wherein the blocked amine comprises a ketone-based blocked amine (column 4, lines 33-38); (15) wherein the ketone-based blocked amine includes a ketone having a molecular weight in the range of about 30 to about 600 (column 4, lines 33-38); (16) wherein the ketone-based blocked amine includes a ketone containing between about 3 and 14 carbon atoms (column 4, lines 33-38);

(17) wherein the blocked amine comprises an aldehyde-based blocked amine (column 4, lines 33-38); (18) wherein the aldehyde-based blocked amine includes an aldehyde having a molecular weight in the range of about 30 to about 600 (column 4, lines 33-38); (19) wherein the aldehyde-based blocked amine includes an aldehyde containing between about 2 and 14 carbon atoms (column 4, lines 33-38);

(20) wherein the blocked amine comprises a methyl isobutyl ketone-xylylenediamine based blocked amine (column 4, lines 24-38);

(21) further comprising adding a pigment (column 6, lines 57-63; Examples); (22) wherein the pigment is selected from *see claim for list* (column 6, lines 57-63; Examples);

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(63) wherein the first solvent has an intermediate polar stability parameter and an intermediate hydrogen bonding solubility parameter (*inherent*: column 6, lines 12-22);

(65) with the proviso that the blocked amine is not the reaction product of one or more compounds containing at least one epoxy group and one or more imines having at least one amino hydrogen (column 3, lines 55 through column 4, line 67); and

(66) with the proviso that the blocked amine is not a heterocyclo-containing compound having a backbone chain selected from the group consisting of polyether, polyvinyl, polyester, polyamide, polycarbonate, and novolac chains at least two heterocyclic groups of the following general formula *see claim for structure and variables* (column 3, line 55 through column 4, line 67).

Matsuda et al. do not explicitly disclose (1) a VOC level of less than about 3 lbs/gal or (2) a VOC level of less than about 2.8 lbs/gal; however, based upon the type and amount of solvent used (*see column 6, lines 12-22*), it appears that these VOC levels would have been inherent properties in the single component epoxy coating precursor of Matsuda et al.

Matsuda et al. do not explicitly disclose (1) exposing and reacting the single component epoxy coating precursor to/with water. However, they disclose that these precursors are “air-oxidation type” coating materials, wherein they react with moisture in the air to form a hardened film (*see column 1, lines 21-36*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to expose/react the single component epoxy coating precursor to/with moisture (in the

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air) in the process of Matsuda et al. because their coating materials are “air-oxidation type” coating materials that harden upon exposure to moisture in the surrounding air.

Matsuda et al. also do not explicitly disclose *(1)* drying the epoxy and the blocked amine. However, it would only seem logical to minimize moisture content to prevent premature hardening of the single component epoxy coating precursor. The need to minimize moisture is supported by the use of a dehydrating agent to prolong shelf-life (*see Abstract; column 5, lines 1-37*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to dry the epoxy and the blocked amine in the method of Matsuda et al. because a drying step would have minimized moisture content, thus preventing premature hardening and prolonging shelf-life of their single component epoxy coating precursor.

Regarding claims 11-13, Matsuda et al. do not explicitly disclose a viscosity at 55 °C, after 30 days, of: *(11)* less than 16 stokes; *(12)* less than 13 stokes; and *(13)* less than 7 stokes. However, it would have been obvious to control the material proportions, thus controlling the viscosity of the single component epoxy coating precursor in order to ensure desired and adequate film forming properties of the final coating film.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to optimize the viscosity of the single component epoxy coating precursor in the method of Matsuda et al. because optimizing the viscosity would ensure desired and adequate film forming properties of the final coating film.

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Regarding claims 41-62, 64, 67, and 68, Matsuda et al. are as set forth above in claims 1-22, 63, 65, and 66 and incorporated herein to satisfy the limitations of claims 41-62, 64, 67, and 68.

Regarding claims 23-40, Matsuda et al. do not explicitly disclose a blocked amine made by the process described in claims 23-40. However, the process steps for forming the blocked amine are not actually part of the claimed process; rather, they are part of product-by-process language embedded within the process claims.

In light of this, it has been found that, “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” – *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Therefore, regardless of how Matsuda et al. prepare their blocked amine, the blocked amine used in their process would have been the same or an obvious variation of the blocked amine set forth in the instant claims. Thus, the method set forth in claims 23-40 would have been obvious to one of ordinary skill in the art the time of the invention in view of the teachings of Matsuda et al, absent the showing of unexpected results affected by said blocked amine preparation process.

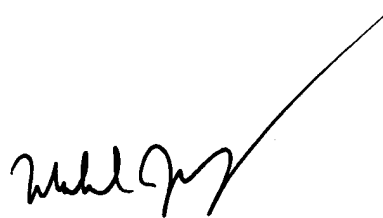
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*Communication*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is 571-272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Michael J. Feely', with a long, sweeping diagonal line extending upwards and to the right from the end of the signature.

Michael J. Feely  
Primary Examiner  
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July 10, 2005